DOCUMENT RESUME

ED 319 196 EC 230 885

AUTHOR	Roessler, Richard; Bolton, Brian
TITLE	Manual for the Employability Maturity Interview.
INSTITUTION	Arkansas Univ., Fayetteville. Research and Training Center in Vocational Rehabilitation.
SPONS AGENCY	National Inst. of Handicapped Research (ED), Washington, DC.
PUB DATE	Mar 87
GRANT	G0083C0010/05
NOTE	38p.; For related documents, see EC 230 883-887.
AVAILABLE FROM	Arkansas Research and Training Center in Vocational Rehabilitation, Publications Dept., P.O. Box 1358, Hot Springs, AR 71902 ($4.00).
PUB TYPE	Tests/Evaluation Instruments (160) -- Reports - General (140)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Adults; Career Development; Diagnostic Tests; *Disabilities; *Employment Potential; Interviews; *Maturity Tests; *Occupational Tests; Test Reliability; Test Validity; *Vocational Maturity; Vocational Rehabilitation
IDENTIFIERS	*Employability Maturity Interview

ABSTRACT

The Employability Maturity Interview (EMI) is a 10-item structured interview developed to assess readiness for the vocational rehabilitation planning process and the need for additional vocational exploration and employability services. The items deal with occupational choice, self-appraisal of abilities, self-appraisal of personality characteristics, and orientation to work. The manual describes the reliability/validity study conducted in the development of the EMI. Results showed that agreement between EMI scorers was high. Average inter-rater correlations exceeded .90 and split-half reliability estimates approached .80. The construct validity of the EMI was confirmed by predicted relationships between EMI scores and intelligence, achievement, vocational interest differentiation, general interest in work, and an independent measure of employment potential. The manual also includes scoring guidelines and 21 references. (JDD)

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Manual for the

Employability Maturity INTERVIEW

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Brian Bolton

EC 230 885

Published By

**Arkansas Research & Training Center
in Vocational Rehabilitation**

Design & Production

Media Materials Development & Dissemination Unit

The contents of this publication were developed under a research and training center grant (G0083C0010/05) from the National Institute of Handicapped Research, Office of Special Education and Rehabilitative Services; Department of Education, Washington, D.C. 20202. However, these contents do not necessarily represent the policy of that agency, and you should not assume endorsement by the Federal Government.

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Employability Maturity INTERVIEW

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Arkansas Rehabilitation Services

Employability Maturity Interview

Introduction to the EMI

In planning a rehabilitation program, it is important to know how people feel about work. People have different abilities that they can offer to employers, but they also have different interests, factors they like in a job, reasons for choosing particular jobs, and even different reasons for wanting to work. The interview we are about to do consists of several questions for you to answer. These questions will help us find out how you feel about work.

Interviewee	Last	First	Middle

Interviewer	**Date**

1. What are some of the things you've done to try to find out more about different kinds of occupations or jobs? (For example, things such as what they are like, what's needed to be successful at them, that sort of thing?)

2. What are some of the things you feel would be important for you to know about yourself before making a job choice?

3. What are some of your abilities, things you do well, that would be valuable to an employer?

4. What are some of the things you've done to try to find out about your own interests and abilities? (For example, have you taken any tests? Talked to counselors or instructors? Tried different jobs?)

[1] The 10 EMI items were selected with permission from Caroline Manuele's (1980) **Adult Vocational Maturity Assessment Interview**, Fordham University at Lincoln Center, New York, New York.

5. When you think about jobs you might get in the future, how would you like them to be different from jobs you've had in the past?

6. What kind of work do you think you might be interested in doing in the future?

7. What do you think a _____ (job title from #6) needs to be good at? What do they need to be able to do well?

8. Can you tell me why you would like to work as a _____ (job title from #6) ?

9. Are there any other jobs that a person like you, with your personality, would be good at doing?

10. Other than _____ (job title from #6) , are there any jobs that you are already considering?

EMI Instructions & Score Sheet

Administering the EMI

1. Administer the EMI orally to the interviewee.
2. Allow 15-20 minutes to complete the 10 questions.
3. Read the introduction to the interviewee.
4. Ask each question in sequence.
5. To clarify a question or seek additional information, use the probes included with the question.
6. Record the main themes in the interviewee's response on the lines following each question.

Scoring the EMI

1. Compare the interviewee's response to each question to the 3 levels of maturity in the EMI Scoring Guidelines.
2. Assign a score to each response that best captures the level of maturity evidenced; i.e., 0-low, 1-intermediate, 2-high. (Note that the interviewee's response to question #5 receives two separate scores).
3. Sum the 11 item scores into a total EMI score.
4. Convert the total score to a percentile rank using the EMI norms.[2]

Remarks

ITEM SCORES	
1.	_____
2.	_____
3.	_____
4.	_____
5a.	_____
5b.	_____
6.	_____
7.	_____
8.	_____
9.	_____
10.	_____
Total Score	

EMI NORMS	
Total Score	Percentile Rank
0	1
1	2
2	3
3	5
4	6
5	9
6	11
7	14
8	16
9	19
10	29
11	37
12	46
13	58
14	66
15	74
16	85
17	90
18	95
19	96
20	97
21	98
22	99

PERCENTILE RANK _____

[2] EMI norms are based on a sample of 101 clients at a comprehensive rehabilitation center: 68% male; median age 22 years; 39% MR or LD; 37% medical; and 24% psychiatric disabilities.

Scoring Guidelines for the EMI

1. What are some of the things you've done to try and find out more about different kinds of occupations or jobs? (For example, things such as what they are like, what's needed to be successful at them, that sort of thing?)

0	No efforts made.	"Not anything, really; it was just a thought."
1	Describes minimal efforts made.	"I've talked to my husband about it." "Just looking in the newspapers, things like that."
2	Describes several activities or efforts to learn more about alternatives and choices.	"Well, I've done some research, gone to the employment agency and got some information on welding courses I was interested in."

2. What are some of the things you feel it would be important for you to know about yourself before making a job choice?

0	No awareness of concepts or inaccurate response.	"Need to go out and fulfill your dreams." "Can't think of anything right now."
1	Vague or general response that could apply to many areas.	"Should know what you have to offer." "Personality would be important" "I search myself every day."
2	Mentions a specific self-knowledge area: interests, abilities, values, goals, or choices.	

3. What are some of the abilities, things you do well, that you have that would be valuable to an employer?

0	Doesn't know or doesn't believe has any abilities that are valuable to an employer.	"I couldn't really answer that right now, because I haven't really actually been employed that much."
1	Mentions general work related abilities.	"Cleaning, that's what I do on my job." "I work very hard."
2	Mentions specific work related ability.	"(My bosses) could leave and feel confident that I was there to take care of whatever needed to be taken care of." "I can fix anything: toasters, irons, TV's. My neighbors all bring me their appliances to fix."

4. What are some of the things you've done to try and find out about your own interests and abilities? (For example, have you taken any tests? Talked to any counselors or instructors? Tried different jobs?)

0	No indication of use of resources or activities to increase self-knowledge.	
1	Mentions general resource or activity, e.g., tried different jobs, talked to friends, has done a lot of thinking about it.	
2	Mentions specific resource or activity, e.g., taken tests, talked to counselors, returned to school, read about occupations.	

5. When you think about jobs you might get in the future, how would you like them to be different from jobs you've had in the past?

a. SPECIFICITY

0	Doesn't know; not able to define what is desired in a future job.	"That's a tough one. I'm always changing my mind." "I never really sat down and thought about it."
1	Makes vague general statement about what is desired in a future job or mentions one general factor.	"I want a good job." "I don't want to work in a sweatshop."
2	Mentions one specific factor or several general ones.	"I want a job that will give me some training." "I want something that I'll like, and that will give me some security."

b. INTRINSIC AND EXTRINSIC WORK ORIENTATION

0	Not able to define what is desired in a future job.	
1	Mentions financial rewards only or simple global extrinsic rewards.	"I want a job with good benefits."
2	Mentions intrinsic work values: rewards obtained from work activity itself, psychological factors, achievement, responsibility, identity.	"I want a job that will allow me to feel I am helping other people." "I like variety because it brings out different aspects of myself."

6. What kind of work do you think you might be interested in doing in the future?

0	No choice or preference	"I really don't know."
1	Mentions general field of work or mentions enterprise, location, population, or place of work without specific choice	"I'd like something in the hospital; I like the hospital atmosphere." "I'd like to do some kind of work with handicapped children." "I want to get into office work."
2	Mentions specific occupation and level and/or specific job title	"I would like to be an auto mechanic." "I'm interested in becoming a clerk-typist."

7. What do you think a _____ (job title from #6) _____ needs to be good at? What do they need to be able to do well?

0	No awareness or inaccurate response.	"I don't know." business manager: "have to control his mind and body"
1	Mentions general ability not specifically related to the occupation.	welder: "have to be able to work hard."
2	Mentions one or more specific abilities required by people working in the occupation.	receptionist: "have to be able to speak well to people over the phone."

8. Can you tell me why you would like to work as a _____ (job title from #6) _____ ?

0	Doesn't know; vague or inaccurate response.	"I thought of office work; no reason; don't even know if I would like it." "My friend says it's a good job."
1	Mentions reasons for choice with no exploration or elaboration, e.g., CETA training, availability, job openings, environment.	"You don't need a high school diploma." "They're hiring for that job at _____."
2	Mentions reasons for choice and explains.	"It's not physical work, being in an office there will be pleasant surroundings."

9. Are there any other jobs that a person like you, with your personality, would be good at?

0	Not able to identify any other occupational alternatives, or makes statement that indicates no awareness of individual differences.	"I don't know, I can't think of any." "A lot of them, I think."
1	No occupational alternative specified, only identifies general personal traits that could be appropriate for many occupations.	"Helping people, I guess, anything helping people."
2	Identifies one or more occupational alternatives.	

10. Other than _____ (job title from #6) _____ , are there any jobs that you are already considering?

0 No other possibilities mentioned.

1 One other possibility mentioned.

2 Two or more other possibilities mentioned.

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Arkansas Research and Training Center in Vocational Rehabilitation
Publications Department • PO Box 1358 • Hot Springs, AR 71902

Manual for the
Employability Maturity Interview

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March, 1987

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Arkansas Rehabilitation Services

Overview

* The Employability Maturity Interview (EMI) is a 10-item structured interview developed to assess readiness for the vocational rehabilitation planning process.

* Agreement between EMI scorers is high; average inter-rater correlations exceeded .90. Split-half reliability estimates for the EMI total score approached .80.

* The construct validity of the EMI was confirmed by predicted relationships between EMI scores and intelligence, achievement, vocational interest differentiation, general interest in work, and an independent measure of employment potential.

* The EMI has promising utility as a brief screening instrument to identify those VR clients needing additional vocational exploration and employability services.

The EMI is a 6-page self-contained instrument which consists of the following: structured interview questions and response blanks, instructions for administering and scoring the EMI, EMI norms, and scoring criteria. An EMI form is inserted at the back of this Manual. The 10 items of the EMI and the item scoring criteria (with minor adaptations) were selected with permission from Caroline Manuele's (1980) Adult Vocational Maturity Assessment Interview.

Acknowledgements

Data presented in this manual were collected during a research study sponsored by the Research and Training Center. Keith Morelock, a Master's student in Rehabilitation Education, reported the results of this investigation in his thesis entitled, The Development and Validation of an Employability Maturity Interview for Handicapped Persons.

The cooperation of the students and staff of the Hot Springs Rehabilitation Center made this study possible. Special thanks are extended to Dr. Neal Little and members of the Center's vocational evaluation staff who field-tested the Employability Maturity Interview (EMI). Students in the Rehabilitation Education program at the University of Arkansas scored the EMI protocols for the study. The assistance of Anita Owen and the media staff of the Arkansas Research and Training Center in Vocational Rehabilitation is gratefully acknowledged.

Support

This publication was developed under Research and Training Center Grant #G0083C0010 from the National Institute of Handicapped Research, Department of Education, Washington, D.C. 20202. The contents do not necessarily represent the policy of that agency, and one should not assume endorsement by the Federal Government.

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Manual for the Employability Maturity Interview

Introduction

One of the most important tasks facing rehabilitation clients is the selection of an appropriate vocational goal. If this decision is to result in worker satisfaction and satisfactoriness (Dawis & Lofquist, 1984), it must be based on an accurate understanding of the relationship of abilities, interests, and values to characteristics of the work role. Although the vocational choice process is an extremely important phase of rehabilitation, little attention has been devoted to developing a brief measure to determine client readiness for such planning. Previous research underscores the need for a readiness instrument (e.g., McMahon, 1979; Conte, 1983; Navin & Myers, 1983; Vandergoot, Jacobsen, & Worrall, 1979), but it does not specify the format for such a measure. To meet this need, the Employability Maturity Interview (EMI) was developed. In this manual, data regarding scorer reliability and construct validity of the EMI are reported.

The EMI

As a result of a review of the rehabilitation and career development literature, Manuele's (1983) Adult Vocational Maturity Assessment Interview (AVMAI) was identified as a promising approach to measuring readiness for vocational planning. Thoroughly grounded in career development theory and research, the AVMAI (1983) was tested in a Job Corps training site serving disadvantaged individuals with a history of job failure or work inexperience. Because many of these individuals were disabled, but seeking work, the developmental samples for the AVMAI strongly resemble a group of rehabilitation clients. By selecting critical items from the AVMAI, it was possible to develop an instrument which reflects traditional research and theory on career development and the way disability influences that process. The resulting measure was entitled the Employability Maturity Interview. The 10 questions comprising the EMI are listed in Table 1.

Readiness for vocational planning was defined in terms of level of self-knowledge and occupational information. In support of this definition, Krantz (1971) described the ability to develop an appropriate vocational goal, one based on self and occupational information, as a "critical vocational behavior" necessary for the successful vocational adjustment of rehabilitation clients.

Table 1

Questions Comprising the EMI[a]

1.	What are some of the things you've done to try and find out more about different kinds of occupations or jobs? (For example, things such as what they are like, what's needed to be successful at them, that sort of thing?)
2.	What are some of the things you feel it would be important for you to know about yourself before making a job choice?
3.	What are some of the abilities, things you do well, that you have that would be valuable to an employer?
4.	What are some of the things you've done to try and find out about your own interests and abilities? (For example, have you taken any tests? Talked to counselors or instructors? Tried different jobs?)
5.	When you think about jobs you might get in the future, how would you like them to be different from jobs you've had in the past?
6.	What kind of work do you think you might be interested in doing in the future?
7.	What do you think (1st choices) need to be good at? What do they need to be able to do well?
8.	Can you tell me why you would like to work as a (1st choice)?
9.	Are there any other jobs that a person like you, with your personality would be good at doing?
10.	Other than (1st choice), are there any jobs that you are already considering?

[a]Selected with permission from Caroline Manuele's (1980) Adult Vocational Maturity Assessment Interview, Fordham University at Lincoln Center, New York, New York.

The purpose of this manual is to discuss the reliability and the construct validity of the EMI as a measure of employability maturity for rehabilitation clients. The resulting EMI score may have many uses. It provides an empirical basis for judging the client's level of preparation for a career planning experience. In addition, individual item scores may be reviewed to determine the person's needs for specific information about vocational interests, aptitudes, and/or the world of work. Appropriate prevocational services can then be selected for the individual.

Development of the EMI

A structured interview format was selected for the assessment of employability maturity because of the difficulties many persons with disabilities encounter with paper-and-pencil tests. For example, structured interviews are more appropriate for individuals with certain types of learning disabilities or physical limitations which impair reading and writing abilities.

Item Selection. The 10 items appearing on the EMI were selected from four scales of Manuele's (1983) Adult Vocational Maturity Assessment Interview. A breakdown of EMI questions, according to Manuele's classification system, is as follows: items 1, 6, 8, and 10 are concerned with choice; items 2, 3, 4, and 7, self-appraisal of abilities; item 5, orientation to work; and item 9, self-appraisal of personality characteristics. These items were selected for the EMI because they measure self-knowledge and occupational information important in the readiness of rehabilitation clients for vocational planning. The rationale is that clients who have a good understanding of self in relation to the world of work, and have used this knowledge in vocational exploration to obtain information about relevant occupations, are, in fact, ready to participate in the formulation of a vocational rehabilitation plan.

Scoring Guidelines. The scoring guidelines for the EMI (see Appendix 1) were developed by adapting Manuele's original scoring system for the AVMAI. To maximize the reliability of the EMI, a three point scale was adopted. This was patterned after the scoring system used in the Wechsler Adult Intelligence Scale which provides anchors and sample responses.

Normative Sample. Norms for the EMI are reported in Appendix 2. The normative sample (N=101) is predominantly male (67%) and young (73% under 30 years of age). Disabilities represented in the sample were as follows: sensory (8%), orthopedic (21%), emotional (24%), learning (9%),

retardation (30%), and other/unknown (7%). Although 57% of the sample reported 12 years of education, the mean achievement by grade level as determined by the Wide Range Achievement Test (WRAT) in reading, spelling, and arithmetic is 7.1, 6.0, and 5.5, respectively. Participants as a group were below average on all nine aptitudes measured by the General Aptitude Test Battery (GATB) or the Nonreading Aptitude Test Battery (NATB), with average scores ranging from 71 on F (finger dexterity) to 94 on Q (clerical perception).

EMI Reliability/Validity Study

Procedure for the Reliability/Validity Study. Participants were 106 disabled persons who were receiving assistance from the Arkansas Rehabilitation Services and the Hot Springs Rehabilitation Center (HSRC) from July to November in 1984. Four of the clients were deleted from the study because of medical or behavioral problems which affected their ability to respond to interview questions. One additional person was deleted from the validity analyses due to insufficient data.

Data were collected at three separate points during a person's stay at HSRC. On arrival, clients completed the GATB or NATB (G-NATB), the WRAT, the United States Employment Services Interest Inventory (USES-II), the Sixteen Personality Factor Questionnaire (16 PF) and the EMI. Approximately four weeks later, vocational evaluators rated each participant's performance using the Work Behavior Checklist (WBC), a 10-item work adjustment rating form. Finally, Center records provided data as to whether participants completed their vocational training and were discharged from the center. Not all clients completed training programs. The five possible discharge statuses were: (a) successfully completed vocational training, (b) completed initial medical or evaluation program but did not begin training, (c) voluntary discharge prior to completion of vocational training, (d) medically nonfeasible for vocational training, and (e) disciplinary discharge. Clients completing a training program were rated by their instructors on both general and specific vocational competence.

Two research assistants who were experienced in vocational assessment administered the EMI and recorded all responses. Audio tapes were also used to record each interview session. Only responses to the 10 EMI questions were used in this study.

EMI Scoring. All EMI protocols were scored by 3 Master's degree students in Rehabilitation Education at the

University of Arkansas. Prior to the first scoring session, the 3 students met as a group for instruction in how to score EMI protocols. During this training session each student was provided with a copy of the EMI scoring guidelines. After reading the scoring guidelines aloud, the trainer answered questions about the scoring procedure. The first of five practice protocols was then scored by each student. Following the completion of each practice protocol, discrepancies in scores were discussed to help clarify the scoring process.

After all practice protocols had been scored and discussed, the first 25 actual interview protocols were scored by each of the three students. To eliminate the effects of fatigue on scoring, each student returned for two additional scoring sessions. In each of these sessions, 38 and 39 additional interview protocols were scored.

Work Behavior Checklist Scoring. In order to quantify vocational evaluators' comments on the WBC, scoring guidelines were developed, using the following three criteria for each rating: 0-Definite problem, 1-Demonstrates fair or average performance, and 2-Demonstrates good or above average performance. Using these guidelines, 2 additional raters scored each of the 47 WBC forms. The two scores obtained for each client were then summed to provide a single WBC score for each of the clients observed.

Assessing Vocational Competence. The 34 subjects completing vocational training programs were rated by their instructors on 12 general vocational competencies, and from 20 to 40 vocational competencies specific to each of the training areas. General competencies included such skills as "works with others", "follows instructions", and "accepts responsibility". All general competencies were rated on a two point scale as being acceptable or unacceptable. Specific competencies were rated on a four point scale of skill acquisition. From these ratings, an average general competence score and an average specific competence score were calculated for each subject.

Reliability

In order to assess the reliability of EMI scoring guidelines, Pearson product-moment correlation coefficients were calculated between the three possible pairings of EMI scorers (A, B, and C). Table 2 reports the obtained coefficients for each item and for EMI totals. Reliabilities of .70 or above were obtained for the three scorer pairs on all items except 5b, 6, and 8. Item 8 was least reliably scored with all three scorer pairs correlating in the .60s. The median

Table 2

EMI Scorer Reliability

EMI Items	r_{AB}	r_{AC}	r_{BC}
1	.87	.89	.88
2	.79	.81	.83
3	.72	.83	.77
4	.78	.86	.79
5a	.80	.73	.70
5b	.70	.72	.60
6	.81	.66	.67
7	.81	.82	.78
8	.61	.64	.64
9	.93	.92	.91
10	.96	.94	.94
Total	.93	.92	.90

N=102

correlation of .80 for the 11 items strongly supports the utility of the EMI scoring guidelines. Scorer agreement was highest for EMI total scores with all rater pairs correlating at .90 or above.

Because EMI protocols must be scored before any type of instrument reliability can be assessed, it is not possible to separate the estimation of instrument reliability from the calculation of scorer reliability. In the present case, the situation was greatly simplified by the finding of high interscorer agreement. Correlations of .93, .92, and .90 between independent judges mean that very little "error" in rating can attenuate EMI reliability estimates.

Due to the infeasibility of conducting retest administrations of the EMI in this investigation, split-half correlations were calculated using the Spearman-Brown formula to estimate the reliability of EMI total scores. Odd items (1, 3, 5a, 7, and 9) and even items (2, 4, 6, 8, and 10) were summed for each of the 3 raters for all subjects. (Item 5b was omitted due to its confounding with 5a.) Corrected ("stepped-up") split-half estimates were calculated for each scorer, as well as average scores for 2 and 3 raters.

Reliability estimates for the 3 scorers were .74, .77, and .82, respectively. For the average scores for all 3 rater pairs, the reliability estimates were .78, .81, and .81. The reliability estimate for the average of all 3 scorers was .81. The very modest gain associated with composite (average) rater scores reflects the already high interrater agreement, i.e., little improvement is possible when multiple scorers are in substantial agreement.

The reliability of the WBC scoring guidelines was also examined. A correlation of .97 was obtained between the WBC total scores provided by the 2 WBC scorers.

Validity

Based on the theoretical and empirical literature on employability maturity, relationships were predicted between the EMI and other variables. Results pertinent to these hypothesized relationships are indicative of the construct validity of the EMI.

Hypothesis 1: The EMI correlates positively with mental ability and scholastic achievement. Westbrook (1983) reported that most measures of career maturity correlate positively with measures of mental ability and scholastic achievement. In the 46 studies reviewed, correlations between mental ability and career maturity ranged from .08 to

.86 with a median of .54. Similar results were found in a review of studies exploring the relationship between career maturity and educational achievement. The correlations ranged from -.10 to .77 with a median of .57. Therefore, it was predicted that the EMI is significantly related to several of the 9 vocationally relevant aptitudes measured by the G-NATB. Significant positive correlations were expected between EMI totals and the G (general learning), V (verbal), N (numerical), S (spatial), P (form perception), and Q (clerical) aptitudes. No relationships were predicted with the K (motor coordination), F (finger dexterity), and M (manual dexterity) aptitudes.

In order to examine the hypothesized relationship between the EMI and mental ability, correlation coefficients were calculated between EMI total scores and the nine aptitudes measured by the G-NATB. As can be seen in Table 3, the correlations obtained with the general learning, verbal, numerical, and clerical aptitudes were significant as predicted. In addition, nonsignificant relationships were found with motor coordination, finger dexterity, and manual dexterity, supporting the hypothesis that the EMI, as a measure of decision-making readiness, is unrelated to these aptitudes. Only the relationships found with the spatial and form perception aptitudes failed to support original predictions; the correlations obtained with these aptitudes were not statistically significant.

It was also predicted that EMI scores are related to scholastic achievement as measured by the WRAT. The WRAT provides an estimate of scholastic achievement by grade level in the areas of reading, spelling, and mathematics. Significant positive relationships were predicted with all three subject areas.

As expected, the EMI correlated positively with all three areas of scholastic achievement--reading, spelling, and math (see Table 3). The relationships between the EMI and intelligence and the EMI and achievement are consistent with Westbrook's (1983) previous research and with Super's (1983) suggestion that mental ability is one of several determinants of vocational decision-making readiness.

Hypothesis 2: The EMI correlates positively with interest differentiation and interest in work. Strong's research (quoted in Hansen, 1984) suggests that individuals with little or no interest differentiation (INDIF) are more likely to require assistance in vocational decision-making. This hypothesis is supported by Jordaan (1963) who suggested that greater differentiation of interests is one of the outcomes associated with exploratory behavior. Further support

Table 3

Correlations of the G-NATB and WRAT with the EMI and Selected Criteria

		Vocational Competence		
Measure	EMI	WBC	G	S
GATB/NATB				
G	.24*	n.s.	n.s.	n.s.
V	.22*	n.s.	n.s.	n.s.
N	.23*	n.s.	n.s.	-.39*
S	n.s.	n.s.	n.s.	n.s.
P	n.s.	.37**	n.s.	n.s.
Q	.22*	.36**	n.s.	n.s.
K	n.s.	.47**	.41*	n.s.
F	n.s.	n.s.	n.s.	n.s.
M	n.s.	n.s.	n.s.	n.s.
WRAT				
Reading	.28**	n.s.	n.s.	-.40*
Spelling	.25**	n.s.	n.s.	-.50**
Math	.31**	n.s.	n.s.	n.s.

*$p < .05$, **$p \leq .01$

is provided by Miller (1982), who found a significant correlation (.34) between interest differentation and information seeking. Hence, a positive relationship was predicted between EMI total scores and interest differentiation on the USES-II. The USES-II measures degree of interest in 12 vocational interest areas. For this study, interest differentiation was defined as the overall variance of the 12 interest scores.

A significant positive correlation between EMI total scores and the standard deviation of each client's 12 interest scores on the USES-II was obtained (see Table 4). This finding indicates that, as predicted, EMI scores are associated with the degree to which subjects have differential preferences across various vocational areas.

The other interest variable hypothesized to be related to EMI scores is general interest in the world of work (INTWRK). Individuals interested in several different occupational areas are more oriented to the world of work and are, therefore, more ready to make vocational decisions. Partial support for this hypothesis has been reported by Miller (1982) who found a positive correlation between information seeking and the number of high and very high scores on the Basic Interest Scale of the Strong-Campbell Interest Inventory. For this study, interest in work was defined as the mean of the highest four standard scores on the USES-II. Again, a positive relationship was predicted.

The interest in work variable was also related to EMI scores as predicted. A significant positive correlation was found between EMI total scores and the mean of each subject's four highest scale scores on the USES-II (see Table 4). EMI scores, therefore, reflect differences in general orientation to the world of work as predicted. Because both of these interest variables have been previously linked to readiness for vocational planning (Hansen, 1984; Jordaan, 1963; Miller, 1982), the significant correlations obtained with EMI scores are particularly encouraging.

Hypothesis 3: Systematic relationships exist between the EMI and selected personality characteristics. Several personality variables have been identified in the literature as influencing readiness for vocational planning. For example, Super's (1983) model of career maturity considers individuals with high self-esteem and well developed problem-solving skills to be more mature. According to Super, another personality characteristic of mature individuals is inquisitiveness, i.e., a tendency to participate in exploratory activities. Additional research (Bohn, 1966; Crook, Healy, & O'Shea, 1984; Khan & Alvi, 1983) supports the pro-

Table 4

Correlations of Interest Variables with the EMI and Selected Criteria

Measure	INDIF[a]	INTWRK[b]
Gender	n.s.	n.s.
Age	n.s.	n.s.
WRAT		
Readin g	.23*	n.s.
Spelling	.20*	n.s.
Math	n.s.	n.s.
EMI	.24*	.28**
WBC	n.s.	n.s.
Vocational competence	n.s.	n.s.
G	n.s.	n.s.
S	n.s.	n.s.

[a]Interest Differentiation

[b]Interest in Work

*$p<.05$, **$p<.01$

posed relationship between the EMI and selected personality variables.

Based on existing theory and empirical data, several relationships were predicted with variables measured by the 16 PF. The 16 PF is a factor analytically derived personality inventory which provides measures on 16 personality traits. Positive correlations were predicted with the following 16 PF scales: A (warm-hearted, outgoing), B (intelligence), C (ego strength), E (dominance), G (disciplined, ordered, dominated by a sense of duty), H (adventurous, active, responsive, friendly, and impulsive), N (astute, worldly, polished, insightful, smart), Q1 (conservatism, respecting established ideas and traditions), Q2 (self-sufficient, resourceful, and preferring own decisions), Q3 (controlled, compulsive, following self-image). Inverse relationships were hypothesized with scales I (cynical, self-reliant, pragmatic, tough minded), M (practical, conventional, prosaic, down to earth), and O (self-confident, resilient, placid).

The hypothesis that EMI scores are related to several personality variables on the 16 PF was not supported. Consistent with the first hypothesis, the only primary factor found to correlate significantly with the EMI total score was intelligence. Correlations with second-order factors on the 16 PF also failed to reach significance. Because intelligence is not a personality factor, results indicate that personality differences do not account for a significant portion of variance in EMI total scores.

One possible explanation for this finding could be the nature of the questions appearing on the EMI. Westbrook (1983) noted that existing measures of career maturity differ in the degree to which they assess affective and cognitive components of career maturity. An inspection of items appearing on the EMI indicates that most of them appear to be cognitive in nature. The majority of EMI questions require clients to provide specific information about themselves, their behavior, or the world of work. Little emphasis is placed on assessing readiness in terms of how the client feels about vocational exploration and planning. Because previous research and theory do not indicate a relationship between personality and these cognitive aspects of employability maturity, the absence of a relationship between the EMI and personality may be explained by the heavy concentration of cognitive items on the EMI.

Hypothesis 4: The EMI is positively related to independent indices of employment potential. A consideration of the employability maturity construct indicates that many of

the skills, attitudes, and behaviors associated with readiness for vocational planning are also important in determining overall work readiness. Bolton (1982) referred to these skills, attitudes, and behaviors which are necessary for successful job placement and vocational adjustment as employment potential. It was predicted, therefore, that the EMI is positively related to independent indices of employment potential. Employment potential was assessed in this study using the WBC.

EMI total scores correlated positively with the sum of two ratings of employment potential obtained from the WBC ($r=.33$, $p<.05$), providing support for the predicted relationship. This finding confirmed the prediction that clients who are ready for vocational planning, as determined by the EMI, also tend to demonstrate greater readiness to participate in the world of work generally. This finding was particularly impressive in light of the fact that WBC ratings were obtained by independent raters approximately four weeks after the EMI was administered. Clear evidence for the predictive utility of the EMI was therefore obtained.

Hypothesis 5: the EMI is related to Hot Springs Rehabilitation Center outcomes. The final hypothesis proposes that clients who are sufficiently ready for vocational planning are capable of selecting appropriate vocational goals and completing vocational training programs. Two HSRC outcome variables were hypothesized to be related to the EMI: discharge status and vocational competence following completion of vocational training. Due to differences in ability to make appropriate choices, clients with high levels of employability maturity were expected to complete vocational training programs more frequently than clients low in employability maturity. Readiness for vocational planning was also expected to correlate positively with the degree of competence demonstrated in vocational training at HSRC.

The relationships between EMI scores and the two outcome variables, discharge status and vocational competence, were not significant. Analysis of variance results indicated no significant differences in EMI scores across the discharge groups ($F=.24$, $p=n.s.$). It should be noted, however, that employment potential, general aptitude, reading ability, interest differentiation, and interest in work were equally ineffective predictors of discharge status. Moreover, Cook and Brookings (1980) and Roessler and Boone (1982) found no relationship between training recommendations based on vocational evaluation and completion of a vocational training program at HSRC.

The second type of outcome variable examined in relation to EMI scores was rating of vocational competence. Ratings

of general competence and specific competence were obtained from vocational instructors when clients completed a vocational training program. Programs were typically completed 8 to 12 months after intake. Competence ratings were available for 34 of the 38 clients who had successfully completed a training program. Correlation coefficients calculated between EMI total scores and instructors' ratings of general competence and specific competence failed to reach statistical significance. These findings do not support the hypothesized relationship between EMI scores and judged competence following vocational training.

Problems with the vocational competence ratings as a criterion may have affected these results. Although a significant correlation was found between general and specific competence, an unexpected pattern of correlations was obtained between the competence variables and other criterion measures. Correlations between the competence variables and the measures of mental ability and scholastic achievement were not positive as would be expected. In fact, significant negative correlations were found between several of the measures and specific vocational competence. These findings make the nonsignificant correlations obtained between EMI scores and the competence ratings difficult to interpret.

One possible explanation for these findings is that many of the clients found to be least ready for vocational decision-making were directed by counselors at HSRC into training programs which they could complete. These clients may have entered training programs with minimal ability requirements, such as housekeeping or laundry attendant, and graduated possessing the required vocational competencies.

Conclusions and Implications

Data indicate that the scoring guidelines developed for the EMI can be used to reliably score interview protocols. Most items and the entire scale were characterized by high scorer agreement. Split-half reliability estimates for the EMI total score were also well within the acceptable range. In addition, from the total pattern of results obtained in this study, it appears that the EMI possesses construct validity. The statistically significant relationships obtained with measures of mental ability, scholastic achievement, interest differentiation, interest in work, and rated employment potential provide the convergence of indicators associated with construct validity.

Overall, results support the proposed use of the EMI as a brief measure of readiness for vocational rehabilitation planning. In the past, rehabilitation counselors have relied

on "clinical intuition" in making this judgment. Although this subjective assessment of readiness may be accurate in many cases, judgments of readiness are likely to vary greatly across counselors.

Client results on specific questions on the EMI may also indicate deficiencies in the areas of self-knowledge and occupational information. Individuals needing further preparation in either of these areas can be provided with such experiences prior to development of a specific vocational plan. For example, examination of EMI responses may reveal that the interviewee is uncertain about vocational fields of interest. To increase the client's knowledge of the world of work, the counselor might arrange a variety of exploratory activities such as exposure to the Guide for Occupational Information, the Occupational Outlook Handbook, or actual job site visits. Information gained from these exploratory activities might also provide a context for more meaningful examination of results on interest and ability measures.

The EMI also provides the counselor with information regarding the client's preferred vocational choices. This information is important because expressed vocational preference and level of personal commitment to it are good predictors of the type of job the client eventually takes (Roessler, 1982). Depending on the degree of previous vocational exploration, the counselor might encourage the client to explore other vocational possibilities.

Although this study has provided initial support for use of the EMI, additional research on the reliability and validity of the measure is needed. For example, split-half reliability estimates do not provide information regarding temporal fluctuations in client performance on the EMI. Hence, test/retest reliability studies and longer-term stability investigations of EMI scores across time are needed. Future validity studies should investigate the relationship of EMI scores to additional criteria. These criteria might include (a) independent judgments of readiness made by rehabilitation counselors or vocational instructors, (b) independent judgments of appropriateness of vocational choice, or (c) changes in EMI scores associated with vocational counseling activities. Recent research (Farley, Schriner, & Roessler, in press) indicates that EMI scores of rehabilitation clients increase as a result of participation in a vocational exploration group.

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Appendix 1

Scoring Guidelines for the EMI

1. What are some of the things you've done to try and find out more about different kinds of occupations or jobs? (For example, things such as what they are like, what's needed to be successful at them, that sort of thing?)

   0 = no efforts made to identify alternatives or choices
   "Not anything, really; it was just a thought."

   1 = describes minimal efforts made to identify alternatives and choices
   "I've talked to my husband about it."
   "Just looking in the newspapers, things like that."

   2 = describes several activities or efforts to learn more about alternatives and choices
   "Well, I've done some research, gone to the employment agency and got some information on welding courses I was interested in."

2. What are some of the things you feel it would be important for you to know about yourself before making a job choice?

   0 = no awareness of concepts or inaccurate response
   "Need to go out and fulfill your dreams."
   "Can't think of anything right now."

   1 = vague or general response that could apply to many areas
   "Should know what you have to offer."
   "Personality would be important."
   "I search myself every day."

   2 = mentions a specific self-knowledge area: interests, abilities, values, goals, or choices

3. What are some of the abilities, things you do well, that you have that would be valuable to an employer?

   0 = doesn't know or doesn't believe has any abilities that are valuable to an employer
   "I couldn't really answer that right now, because I haven't really actually been employed that much."

   1 = mentions general work related abilities
   "Cleaning, that's what I do on my job."
   "I work very hard."

2 = mentions specific work related ability
"(My bosses) could leave and feel confident that I was there to take care of whatever needed to be taken care of."
"I can fix anything, toasters, irons, TV's. My neighbors all bring me their appliances to fix."

4. What are some of the things you've done to try and find out about your own interests and abilities? (For example, have you taken any tests? Talked to any counselors or instructors? Tried different jobs?)

0 = no indication of use of resources or activities to increase self-knowledge

1 = mentions general resource or activity, e.g., tried different jobs, talked to friends, has done a lot of thinking about it.

2 = mentions specific resource or activity, e.g., taken tests, talked to counselors, returned to school, read about occupations.

5. When you think about jobs you might get in the future, how would you like them to be different from jobs you've had in the past?

a) Specificity

0 = doesn't know; not able to define what is desired in a future job
"That's a tough one. I'm always changing my mind."
"I never really sat down and thought about it."

1 = makes vague general statement about what is desired in a future job or mentions one general factor
"I want a good job."
"I don't want to work in a sweatshop."

2 = mentions one specific factor or several general ones
"I want a job that will give me some training."
"I want something that I'll like, and that will give me some security."

b) Intrinsic and Extrinsic Work Orientation

0 = not able to define what is desired in a future job

1 = mentions financial rewards only or simple global extrinsic rewards
" I want a job with good benefits."

2 = mentions intrinsic work values; rewards obtained from work activity itself, psychological factors, achievement, responsibility, identity;
"I want a job that will allow me to feel I am helping other people."
"I like variety because it brings out different aspects of myself."

6. What kind of work do you think you might be interested in doing in the future?

0 = no choice or preference
"I really don't know."

1 = mentions general field of work or mentions enterprise, location, population, or place of work without specific choice
"I'd like something in the hospital; I like the hospital atmosphere."
"I'd like to do some kind of work with handicapped children."
"I want to get into office work."

2 = mentions specific occupation and level and/or specific job title
"I would like to be an auto mechanic."
"I'm interested in becoming a clerk-typist."

7. What do you think (1st choice) need to be good at? What do they need to be able to do well?

0 = no awareness or inaccurate response
"I don't know."
business manager: "have to control his mind and body."

1 = mentions general ability not specifically related to the occupation
welder: "have to be able to work hard."

2 = mentions one or more specific abilities required by people working in the occupation
receptionist: "have to be able to speak well to people over the phone."

8. Can you tell me why you would like to work as a (1st choice)?

0 = doesn't know; vague or inaccurate response
"I thought of office work; no reason; don't even know if I would like it."
"My friend says it's a good job."

1 = mentions reasons for choice with no exploration or elaboration, e.g., CETA training, availability, job openings, environment
"You don't need a high school diploma."
"They're hiring for that job at ____."

2 = mentions reasons for choice and explains
"It's not physical work, being in an office there will be pleasant surroundings."

9. Are there any other jobs that a person like you, with your personality, would be good at?

0 = not able to identify any other occupational alternatives, or makes statement that indicates no awareness of individual differences
"I don't know, I can't think of any."
"A lot of them, I think."

1 = no occupational alternative specified, only identifies general personal traits that could be appropriate for many occupations
"Helping people, I guess, anything helping people."

2 = identifies one or more occupational alternatives

10. Other than (<u>1st choice</u>) are there any jobs that you are already considering?

0 = no other possibilities mentioned

1 = one other possibility mentioned

2 = two or more other possibilities mentioned

Appendix 2

EMI Normative Table[a]

Total Score	Percentile Rank
0	1
1	2
2	3
3	5
4	6
5	9
6	11
7	14
8	16
9	19
10	29
11	37
12	46
13	58
14	66
15	74
16	85
17	90
18	95
19	96
20	97
21	98
22	99

[a]Based on a sample of 101 clients at a comprehensive rehabilitation center; 62% male; median age 22 years; 39% MR or LD, 37% medical, and 24% psychiatric disabilities.

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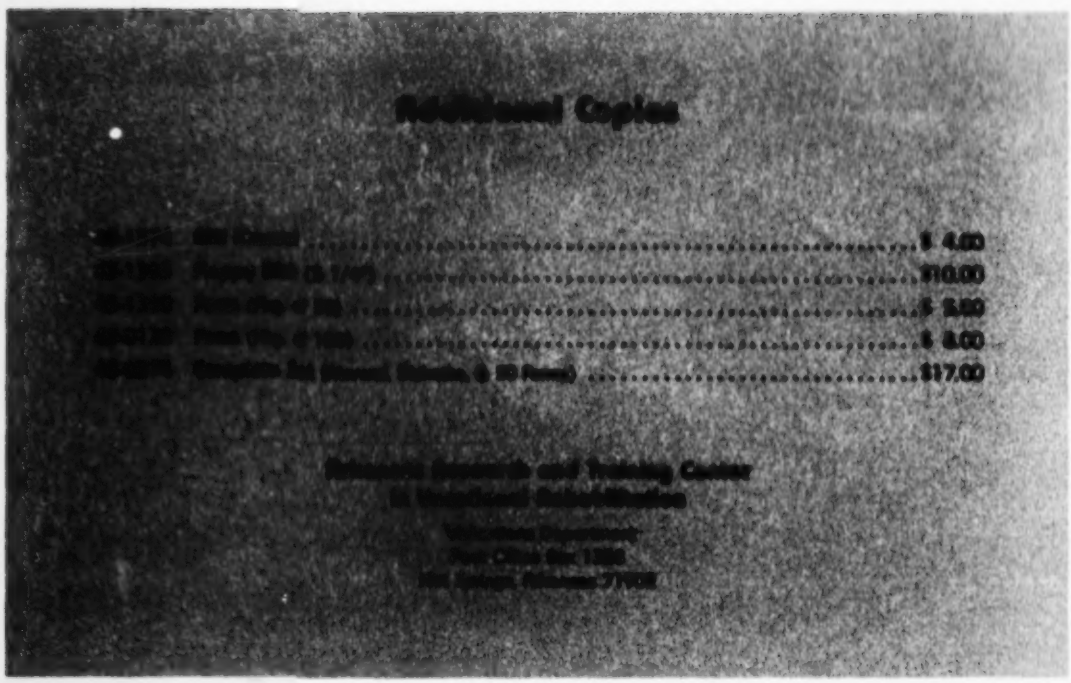

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